

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 3-4, 6-8, and 10-14 are pending in the application. Claims 1, 3-4, 8 and 13 are amended; Claims 2, 5 and 9 are canceled; and Claim 14 is added by the present amendment. Support for amended Claims 1, 3-4, 8 and 13, as well as new Claim 14 can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the outstanding Official Action Claims 1-13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Takeshi (JP Publication No. 11-273126) in view of Nuss (U.S. Patent No. 5,789,750).

In response to the rejection based on Takeshi and Nuss, Applicant respectfully submits that amended independent Claims 1, 3-4, 8 and new Claim 14 recite novel features clearly not taught or rendered obvious by the applied references.

Specifically, amended independent Claim 1 recites an optical lens, comprising:

an optical material comprising an SiC single crystal
having a cubic structure;
a conical objective surface; and
a convex spherical surface formed opposite said conical
objective surface.

Independent Claims 3, 4, and 8, while directed to alternative embodiments, recite substantially similar features. Accordingly, the remarks presented below are applicable to each of independent Claims 1, 3-4 and 8.

As indicated above, independent Claims 1, 3-4 and 8 are amended to recite an optical lens which has a ***conical objective surface***. This feature is disclosed, in an exemplary embodiment, at Figs. 8-9 and pp. 24-25 of the specification.

¹ e.g., specification, Figs. 8-10.

Turning to the applied primary reference, Takeshi describes a solid immersion lens used for high density optical recording and reproducing. As described at paragraph [0014], the solid immersion lens (16) is made from semi-sphere-like silicon carbide (SiC), and forms a spot in the lens base of the solid immersion lens (16). As depicted in Figs. 1, 3, 4-6, 9 and 13 of Takeshi the lens includes a flat objective surface and a semi-sphere-like surface formed opposite to that of the flat objective surface.

However, at no point does Takeshi, teach or suggest that the optical lens includes *a conical objective surface*, as recited in amended independent Claims 1, 3-4 and 8. In contrast, as noted above, the solid immersion lenses (16, 23, 43, 63, 83, and 113) described by Takeshi all have a flat objective surface. Thus, Takeshi fails to teach or suggest an optical lens including *a conical objective surface*, as recited in the amended independent claims.

Turning to the applied secondary reference, Nuss describes a substrate lens (36) which has a cubic crystal structure and a flat objective surface with a corresponding spherical surface formed opposite to the flat objective surface. Such a configuration is emphasized by Figs 3A-3C of Nuss, and the corresponding description.

However, similar to Takeshi, described above, Nuss fails to teach or suggest that the objective lens includes *a conical objective surface*, as recited in independent Claims 1, 3-4 and 8. Specifically, as noted above, and as depicted in Figs. 3A-3C, all embodiments of Nuss show that the objective surface is flat and not conical.

Therefore, Takeshi and/or Nuss, neither alone, nor in combination, teach or suggest an optical lens comprising an optical material comprising an SiC single crystal having a cubic structure, *a conical objective surface*, and a convex spherical surface formed opposite the conical objective surface, as recited in amended independent Claims 1, 3-4 and 8.

Accordingly, Applicants respectfully request that the rejection of independent Claims 1, 3-4 and 8 (and the claims that depend therefrom) under 35 U.S.C. § 103 be withdrawn.

Further, new independent Claim 14 recites an optical lens comprising:

an optical material comprising an SiC single crystal
having a cubic structure;
a stepped objective surface; and
a convex spherical surface formed opposite said stepped
objective surface.

Support for new Claim 14 can be found at Fig. 10 and p. 26 of the originally filed specification, which clearly discloses an objective surface resembling a step in the center portion.

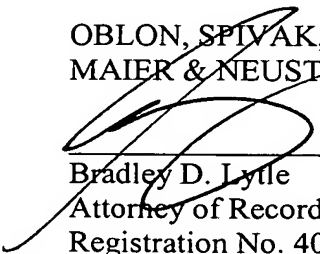
As discussed above, both Takeshi and Nuss describe lenses having a flat objective surface and which have no step, whatsoever. Therefore, Takeshi and/or Nuss, neither alone, nor in combination, teach or suggest an optical lens having ***a stepped objective surface***, in combination with the additional features recited in new independent Claim 14.

Accordingly, Applicant respectfully submits that new Claim 14 patentably defines over the applied references.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1, 3-4, 6-8 and 10-14 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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